

September 20, 2011

City of Wichita, Kansas
New Foundation, Basement & Slab-On-Grade Standards for One & Two Family Dwellings
(August 30, 2011 Edition)

On September 20, 2011, the Wichita City Council adopted amendments to the Wichita Residential One & Two Family Building Code (City Code Title 18.51), which incorporate (by reference) new *Foundation, Basement & Slab-On-Grade Standards for One & Two Family Dwellings (Standards)*. The new *Standards* incorporate and expand the previously-adopted *Wichita Basement Standards for One and Two Family Dwellings*, and outline new standards for one and two family “slab-on-grade” construction. It is anticipated that the new *Standards* will become effective with building permit applications submitted to the Wichita Office of Central Inspection on or after October 17, 2011.

Key components of the new *Foundation, Basement & Slab-On-Grade Standards for One & Two Family Dwellings (August 30, 2011 Edition)* are outlined below.

- Soil testing/analysis of existing native soils at a proposed building pad site (for one and two family residences and habitable space additions) is required *prior to building permit issuance*, and must include:
 - a minimum of two soil samples, of minimum sample size and depth per the new *Standards*, taken from diagonal corner locations of the proposed building pad site (habitable area); and
 - plasticity index (P.I.) testing and certification of building pad site soil samples from a soils engineer or certified/approved testing company/lab.
- Soil characteristics and plasticity index (P.I.) test results will establish the minimum depth of footings, and minimum foundation/slab design and installation requirements (as outlined in the new *Standards*). The P.I. rating of the native soil will help determine the potential for expansion and movement of soil over time based on the moisture content of the soil and soil type. The *Standards* are intended to generally address structural considerations relative to the various soil types present in the Wichita/Sedgwick County area.

The minimum depth for foundation footings is increased from 24” (per the International Residential Code) to 30”. The proposed *Standards* require footings progressively deeper than 30” as P.I. rating increases. When slab-on-grade residential structures are to be constructed on soils with a P.I. rating greater than 45, the footing, foundation and slab system must be designed and sealed by a Kansas-licensed structural engineer in order to obtain a building permit.

- Steel mesh and/or steel bars/rebar will be required in all slabs constructed on grade. Fiber concrete reinforcing material may still be used to control shrinkage, *but only in addition to steel reinforcement*.
- Specific below slab fill materials and depths are established, depending on the soil analysis and the required minimum footing/foundation design (per the new *Standards*).
- Specific criteria and installation standards are clarified and expanded as related to under-slab fill materials, footing drainage fill materials and foundation backfill materials.
- Foundation and surface drainage design and maintenance are emphasized to minimize the potential for foundation and/or slab damage as a result of moisture infiltration.
- A new building permit [pre-slab concrete pour inspection](#) is required to allow Office of Central Inspection building inspectors to check and verify under-slab material placement and required minimum steel reinforcement placement/installation.
- Additional requirements are established for concrete floor slab construction in attached garages (under slab preparation and reinforcement).

Here is the link to the [Foundation, Basement & Slab-On-Grade Standards for One & Two Family Dwellings](#) and the [Slab-on-Grade Soil Sample Test Verification Form](#).